

IN THE SPECIFICATION

Please replace paragraphs [0026] and [0028] as follows:

[0026] Vias (50) provide current paths across the junction between the bump (44) and the top metal layer, M8. The part of the top metal layer, M8, that makes contact with the bump is known as its “landing pad” (52). Thus, current is carried to or from the bump (44) from or to the vias (50) by layer M8 and the landing pad (52). Arrows indicating the flow of current from the bump (44) to the vias (50) are shown for illustration purposes in Figure 4c. Although the vias (50) facilitate current flow, because the vias (50) are positioned laterally across the layer M8, and the bump (44) is circular, there is non-uniform current density at the junction between the bump (44) and the top metal layer, M8. This non-uniform current density, resulting from the differences in current path length from the vias (50) to the bump (44), is known as “current crowding.” In this current crowding phenomenon, there is high current density at a region (54) of the bump (44) that is in closest proximity to the vias (50), and there is lower current density in the rest of the junction between the bump (44) and the landing pad (52). For example, in Figure 4c, it can be seen that the shortest current path length is along arrow (5[[5]]3a), resulting in current crowding in region (54). A lower concentration of current flow occurs along arrows (5[[5]]3b), and [[an]] even lower concentrations of current flow occur[[s]] along arrows (5[[5]]3c, 53d). Those skilled in the art will note that in Figure 4c, the relative thicknesses among arrows from the vias (50) to the bump (44) are indicative of the relative current densities of the various current flow paths. For example, arrow (5[[5]]3a) has a higher current density

than arrows (5[[5]]3c), and thus arrow (5[[5]]3a) is thicker than arrows (5[[5]]3c).

[0028] Figure 5a shows a top view of a bump and vias structure in accordance with an embodiment of the invention. In the prior art example shown in Figure 4c, current crowding occurred due to the current concentration along the central current flow path, i.e., arrow (5[[5]]3a). In the embodiment shown in Figure 5a, the vias (50) have been separated into vias (50a) in a first outer region (57a) and vias (50b) in a second outer region (57b). In this embodiment, the vias have been removed from a central region (57) in between the first and second outer regions (57a and 57b), and have been concentrated along the outer regions (57a and 57b) of layer M8. Thus, vias (50a) cause a concentration of current to flow along arrow (55a), while vias (50b) cause a concentration of current to flow along arrow (55b). Because of the relative lack of current sources, i.e., vias, in the central region (57c), it can be seen that the current path lengths from the vias (50a and 50b) to the bump (44) are all virtually the same. Accordingly, current uniformity at the bump (44) is increased. Correspondingly, current crowding, and the resulting performance degradation, are decreased.